An Introduction to Practical Mathematics. By F. M. SAXELBY. London and New York: Longmans, Green & Co., 1908. Pp. vi+220.

This book is intended especially for students in evening schools of engineering and applied sciences. It includes, in the order given, chapters on contracted methods of computation, the use of algebraic symbols in formulas, mensuration of regular figures, the fundamental operations with algebraic expressions, algebraic factors and fractions, simple equations, the theory of exponents and logarithms, plotting of functions, graphical solution of equations, ratio and variation, trigonometric ratios, solution of right triangles, mensuration of irregular figures, and rate of increase of one variable in terms of another. Appended are several Board of Education examination papers, answers to examples, a table of constants, and a table of logarithms.

Although "practical," the book is not a collection of rules and typical examples. The range of topics treated in 190 pages is sufficient indication of its compactness. There is practically no repetition, and each new principle is promptly illustrated by practical problems. The concise explanations of principles are admirably clear and are calculated to stimulate the student's interest in the reasons underlying the processes illustrated. The book seems well adapted to its purpose. It may be used to good advantage also by high-school mathematics teachers as a source of practical problems and of suggestive methods of presenting certain topics.

WILLIAM E. STARK

ETHICAL CULTURE SCHOOL
NEW YORK CITY

Arithmetical Abilities, and Some Factors Determining Them. By CLIFF WINFIELD STONE. New York: Published by Teachers College, Columbia University, 1908. Pp. 101.

In part, this study is a continuation of the earlier Teachers College studies on the correlation of school abilities. The question is, to what extent excellence in one of the four fundamental processes, addition, subtraction, multiplication, or division of integers, implies excellence in the other three, and to what extent excellence in all four implies excellence in arithmetical reasoning. The remainder of the investigation deals with the relation of the time expended upon arithmetic to the quality of the results. The author's method consisted in visiting personally twenty-six cities and towns, equably distributed over the East and Middle West, and giving a set of questions to the high-sixth-grade classes of certain schools, selected by the various superintendents. The schools chosen were supposed to be those in which the approved course of study had been best carried out for the past six years. The papers were graded by the author. Twelve minutes were allowed on the fundamentals, and fifteen minutes on the reasoning test. Each part contained more questions than could be done in the time allowed, and hence the grades represented speed as well as accuracy. In many respects this investigation is similar to the one made some years ago by Dr. J. M. Rice and published in the *Forum.*

As to the correlation of arithmetical abilities, it was found that excellence